

Claims

[1] A functional cornstalk board comprising 1 to 10 parts by weight of a curing agent, based on 100 parts by weight of the mixtures of 6 to 10 parts by weight of cornstalk and 0.2 to 2 parts by weight of a binder or silicate.

[2] The functional cornstalk board according to claim 1, wherein the binder is at least one selected from the group consisting of melamine formaldehyde glue, urea formaldehyde glue, phenol formaldehyde glue, urea & mixed formaldehyde glue, phenol & urea & mixed formaldehyde glue, urea melamine formaldehyde glue, poly-lauylacrylate, poly-2-ethylhexylacrylate, vinyl acrylic resin, vinyl acetate resin, glues and EVA resin.

[3] The functional cornstalk board according to claim 1, wherein the curing agent is at least one selected from the group consisting of ammonium hydroxide, ammonium chloride, magnesium chloride, aluminum chloride and ammonium phosphate.

[4] A method for preparing the functional cornstalk board as defined in said claim 1, comprising steps of:
mixing of grinded cornstalk with binder or silicate;
adding a curing agent to the resultant mixture to prepare a raw material; and
molding the prepared raw material at a molding temperature of 120 to 210 °C and a molding pressure of 10 to 30,000 kg/cm² for a molding time of 0.5 to 20 minutes in a semiautomatic or multistage automatic heat press device.

[5] A method for preparing the functional cornstalk board as defined in said claim 1, comprising steps of:
grinding cornstalk to mix with binder or silicate; and
adding a curing agent to the resultant mixture to prepare a raw material, wherein the functional cornstalk board is prepared using the conventional MDF manufacturing process consisting of a process for grinding cornstalk, a cooking process, mechanical pulping process, a process for adding resin, a fluidized drying process, a process for storing hopper, an air filtering process, a mat molding process, a process for pressing with a heat press, a cooling process, a cutting process, etc.

[6] A functional cornstalk board comprising 2 to 10 parts by weight of each of a phosphoric acid-including flame retardant such as triethylphosphate, etc., a halide-including flame retardant such as bromotriallylphosphate, etc., a sulfur-including flame retardant such as sulfamic acid, etc., an inorganic flame retardant such as ammonium borate, phosphoric acid, sodium silicate, calcium carbonate, titanium oxide, etc., and an electromagnetic shielding component such as

alkaline metal salts, alkaline earth metal salts, graphite, activated carbon, carbon fibers, etc., based on 6 to 10 parts by weight of the cornstalk.